

## ABSTRACT

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WHAT ARE THE LITERACY COMPONENTS OF JOB PROFICIENCY?  
An Objective, Opinionated Commentary

Military researchers in the areas of selection and assignment, training, and unit leadership and management have the common goal of improving job performance. Of necessity, each area of research approaches this goal from a different perspective. However, in the final analysis we are all dealing with the same nucleus, the individual enlistee, and the ability of these personnel to learn, perform and maintain their proficiency in performing their prescribed military duties.

Recently, the role of literacy in affecting military efforts to select, assign, train, lead and manage individuals and units has become a prominent issue. My objective in this paper is to identify what I perceive as serious pitfalls in the concept of literacy as presently reflected in applied military research as well as in operational practices. Support for this perspective will be offered based on research literature and findings from my own recently completed research. I will then propose a direction for future research. The goal of this research is to substitute a more diagnostic, functionally-related concept of the individual's job-related knowledge base for the present, relatively uninformative concept of general literacy.

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My paper addresses two questions: What is a job reading task? What is the purpose and potential value of tests built on this concept?

What is a job reading task?

The concept of a job reading task that I am going to present grew out of research conducted for the Army by Tom Sticht of HumRRO (1975).

Major objectives of their research program were to develop ways of estimating minimal reading skill requirements of Army jobs and to develop alternative approaches the Army could use to effectively utilize low aptitude recruits. In addition to conducting research on the use of information provided by general reading tests and readability formulas, Sticht and associates interviewed job incumbents in their work settings to identify specific instances in which they had used printed materials to assist them in performing their work. For each incident cited, the interviewee was asked to describe the task or activity he had been engaged in and the information he had been seeking when he went to the printed material. In addition, he was asked to obtain the manual and show the interviewer the portions of the material he had used in attempting to obtain the information he had been seeking. Information obtained in this way was then used as the basis for identifying job reading tasks.

In the course of this research a model of a job reading task was developed. In this model a job reading task occurs when the worker uses visual information displays to resolve a question or otherwise obtain information to support performance of his task activities. A specific job reading task is defined in terms of both the question or nature of the information the person was seeking and the specific material used in attempting to obtain the information. Description of a job reading task as it occurs in the job setting contains at least the following

elements:

Condition: Worker performing task activity in the "natural" job setting

1. Recognizes need for information
2. Formulates question
3. Identifies a likely source
4. Locates source  
(if manual)
5. Searches manual for information responsive to question
6. Locates and processes print for information
7. Resumes task activity, applying (accepting/rejecting) information

Construction of job reading task tests.

As in dealing with most problems in life, there are two approaches to developing job reading tests based on job reading tasks, the ideal and the practical approach. Ideally, all one would have to do to construct a job reading task test would be to sample the job reading task incidents described in interviews such as those obtained by Sticht. Then using the model of a job reading task as a guide, you would simulate the full situation for each job reading task in performance test format. This, obviously, is not a feasible approach.

A practical approach is to obtain job reading task incidents and then classify the questions asked and the materials used. Assuming that questions asked remain cross-indexed to the materials used during this classification process you can then sample on the basis of either question or material classifications to form subtests for a job reading task test. In using this approach you are providing the "question" in the test format and a replica or copy of the actual job materials. As a result you have restricted the test to only those elements of the job reading task (described above) that occur after the worker has located the source of information. The test is now degraded as a test of actual job reading behaviors if for no other

reason than the fact that a "teacher" is not generally available on the job to tell the worker what question he should be asking and to provide him with the specific material needed to answer the question. Be that as is may, the degraded form still permits one to examine how well personnel can perform different types or sub-sets of question-material combinations which can be expected to be encountered in the job setting.

At this point I am going to put other methodological problems on "hold" in order to focus on a more important issue for advancing development of tests based on job reading tasks. Put simply, this issue is what is the purpose of these tests?

#### Why develop job reading task tests?

Research in this area in the military was funded under the pressures of Project 100,000 and the concerns over effectively utilizing recruits scoring in the lower range of aptitude scores. It has been my impression that when the words literacy or reading skills pop up commanders and administrators automatically tune to visions of low aptitude, functionally illiterate, personnel and remedial reading programs to teach phonics, word recognition and vocabulary. The targeting of remedial reading programs for those at only the extreme low end of tested reading ability appears to have "chicken-and-egged" (I don't know which came first) two perceptions of adult literacy or reading "problems". One view is that remedial reading training has not and can not demonstrate gains in reading ability that have any practical affect on improving learning and performance of military jobs. The second perception is that adult reading competency is a distinctly bimodal phenomenon. Under this perception an adult is either competent in meeting reading requirements of training and job performance or is functionally illiterate in all areas.

It is my contention that the continued reliance on reading tests designed to yield only a global screening or school grade placement score is responsible for

reinforcing and maintaining the pessimistic and restrictive perceptions of adult reading competencies I have cited above. As a result of our continued use of these tests we have very little data on how adults perform reading tasks that can be related to the use of reading to deal with the requirements of training, job performance, and general military life events. Aside from the work performed by Sticht, there has been little research in the military devoted to this objective. However, even his job reading task tests have been designed to yield only a global screening score.

With the above considerations (and opinions) in mind, I am proposing the following applied objectives for use in designing tests based on job reading tasks. I am offering these objectives to solicit this panel's consideration and discussion of their merits for moving the topic of job-related reading out of the remedial reading school and into the broader area of cognitive psychology and its possible contributions to improving training and job proficiency.

Applied Objective Proposed for Use in Designing Reading Tests Based on Job Reading Tasks:

1. Predict how well individuals can handle different types of job-specific reading requirements prior to job training.
2. Assist training developers identify and use reading task requirements in establishing training objectives and standards for course development.
3. Assess how well trainees can handle the different types of job reading requirements at end of training; Predict how well they can handle these types of job reading requirements when on the job.
4. Assist developers of manuals or other visual information displays to identify anticipated levels reading competencies for different types of job reading tasks.

Reference:

Sticht, Thomas G. (Ed.) Reading for Working, HumRRO, Alexandria, VA 1975,